

METHOD AND RELATED PROCESSING CIRCUITS FOR REDUCING MEMORY ACCESSING WHILE PERFORMING DE/COMPRESSING OF MULTIMEDIA FILES

Abstract

Method and apparatus for reducing memory access while de/compressing multimedia files, videos, or image files. An image is divided into blocks, and a frequency data matrix corresponding to a frequency transformed and quantized block is stored in a memory for later de/compression. The method includes registering a bit plane containing a plurality of bits in a register module, wherein each bit represents whether a corresponding element of the data matrix equals zero. While accessing the memory for the data matrix, if a bit of the bit plane shows that its corresponding element of the data array is zero, the element is not accessed from the memory. In checking bits corresponding to elements not yet accessed; if these bits show that elements not accessed are all zero, accessing for the data array can be terminated without accessing them. Thus, memory access can be reduced to occupy

less bandwidth of the memory.